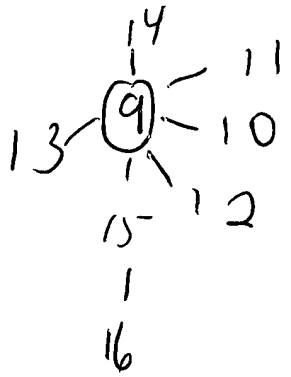
844267



SS 1?
drum()assembl###

*SEARCHING...

OCCURS	TERM
107601	DRUM
646731	ASSEMBL###

SS 1 RESULT (564)

SS 2?
1 and wrap:

*SEARCHING.

OCCURS	TERM
71986	WRAP:

SS 2 RESULT (27)

SS 3?
2 and (skin or ax#s or mandrel or radius)

*SEARCHING....

OCCURS	TERM
69865	SKIN
536113	AX#S
30070	MANDREL
50958	RADIUS

SS 3 RESULT (7)

SS 4?
prt fu 7

-1- (WPAT)
AN - 97-274914/25
XRPX- N97-227689
TI - Head drum assembly for VCR - has stationary electromagnet for moving head
in direction parallel to axis of rotary drum
DC - T03 W04
AW - VIDEO CASSETTE RECORDER
PA - (DAEW-) DAEWOO ELECTRONICS CO LTD
IN - JOE Y
PR - 95.11.28 95KR-044376
NUM - 2 patent(s) 2 country(s)
PN -- GB2307774 A 97.06.04 * (9725) 14p G11B-005/588
- JP09171613 A 97.06.30 (9736) 4p G11B-005/588
AP -- 96GB-024813 96.11.28
- 96JP-317657 96.11.28
IC1 - G11B-005/588
AB - GB2307774 A
The head drum assembly includes a rotary drum (20) with a circumferential

side wall (21) having a pair of openings (22). The drum is mounted rotatably on a bracket (80) and, in operation, a magnetic tape is wrapped
partially around the drum. A pair of heads (30) are provided, each with a head base disposed on an inner bottom surface of the drum and a head chip which comes into contact with the magnetic tape through the opening.

The head base is guided (40) in a direction parallel to the axis of
the rotary drum and moved in this direction by an electromagnet (50) while the head chip is in contact with this tape. The electromagnet is held stationary by a holder secured to the bracket. Pref. the heads are disposed at 180 deg. to each other on the bottom surface of the rotary drum. The electromagnet is pref. curved along the path of rotation of the
head base.

ADVANTAGE - Moves head parallel to axis of drum so that it remains adjacent to given tape track without requiring brush and slip ring arrangement, thereby reducing production cost. (Dwg.1/3)

FN - WPH5W4I1.GIF

-2- (WPAT)
AN - 89-221736/31
XRPX- N89-169199
TI - Lower cylinder of drum assembly for helical scan magnetic recording - includes tape guiding, tape wrapping and wedge-like protruding portions, protruding amount being equal to that of magnetic head
DC - T03 W04
AW - VIDEO TAPE RECORD
PA - (VICO) VICTOR CO OF JAPAN
IN - ARAI M, IKEDA T, TSUCHIYA E, IKEDA TNV, TSUCHIA E
PR - 87.11.30 87JP-301774
NUM - 6 patent(s) 6 country(s)
PN -- EP-318931 A 89.06.07 * (8931) E 10p
R: DE FR GB
- CN1033709 A 89.07.05 (9021)
- US4977473 A 90.12.11 (9101)
- EP-318931 B1 93.09.08 (9336) E 13p G11B-015/61
R: DE FR GB
- DE3883932 G 93.10.14 (9342) G11B-015/61
Based on EP-318931
- KR9206334 B1 92.08.03 (9404) G11B-015/62
CT - DE3545062; EP-154120; EP--69499; GB2097168; GB2149958; JP56034708; JP63046647; US3930270
2.Jnl.Ref; A3...9012; No-SR.Pub
AP -- 88EP-119903 88.11.29
- 88US-278572 88.11.28
- 88EP-119903 88.11.29
- 88DE-3883932 88.11.29 88EP-119903 88.11.29
- 88KR-015396 88.11.23
IC1 - G11B-015/61 G11B-015/62
IC2 - G11B-005/02
AB - EP-318931 A
The cylinder has on its outer circumferential surface, a tape-guding portion for guiding magnetic tape when the tape is wrapped around the guide drum assumbly. The tape is wrapped over the wrapping portion along the guiding portion along a direction of rotation of upper cylinder. A protruding portion is formed in the additional tape-wrapping angular range so as to be protruded by a predetermined amount with respect to a surface of he tape wrapping portion.

The tape initially comes into contact with protruding portion when the tape comes to enter into the guide drum assembly. The protruding portion has a wedge-like portion an apex of which is directed in the direction of rotation of the upper cylinder. The protruding amount of the
protruding portion with respect to the surface of the tape-wrapping portion is equal to a protruding amount of teh magnetic head from a surface of the tape wrapping portion.

USE/ADVANTAGE - For video tape recorder mfg. cost reduction.

FN - WP94R3C1.GIF

-3- (WPAT)
AN - 89-078570/11
XRPX- N89-060000
TI - Helical scan optical recording and replay system - has optical image rotator mounted co-axially inside drum which receives helically wrapped tape
DC - T03 W04
PA - (THOE) THORN EMI PLC
IN - BAKER BJ, DEAN TF
PR - 87.09.05 87GB-020924
NUM - 1 patent(s) 13 country(s)
PN -- EP-307095 A 89.03.15 * (8911) E 7p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
CT - US3823276; US4633455
A3...9002; No-SR.Pub
AP -- 88EP-307539 88.08.15
IC2 - G11B-007/00
AB - EP-307095 A
An integrated rotatable drum and optical rotator assembly (1) has the helical scanning drum (2) provided with a depending hollow drive shaft (12). The optical rotator assembly (4) is secured to the upper end of a hollow drive shaft (5) disposed coaxially inside the hollow drive shaft (12) of the drum.

The rotator assembly is driven through the shaft (5) by a motor with armature (6) and magnet (7) assemblies disposed close to the lower end of the drive shaft (5). The drum motor has coaxial armature and magnet assemblies (8,9) mounted centrally of the rotator drive shaft (5).

ADVANTAGE - Multichannel optical recording system having physically compact integrated rotator and drum assembly. (1/3)

-4- (WPAT)
AN - 86-293089/45
XRPX- N86-218926
TI - Magnetic tape recording-reproducing appts. - has rotary head assembly with sweeping member upstream of magnetic head removing dust and grit from tape
DC - T03 W04
AW - HELICAL SCAN VTR
PA - (SONY) SONY CORP
IN - KUBOTA Y, TSUBOTA T
PR - 85.11.07 85JP-249769 85.04.30 85JP-091078
NUM - 6 patent(s) 4 country(s)
PN -- EP-200536 A 86.11.05 * (8645) E 20p
- CN8603484 A 87.03.18 (8823)
- US4849839 A 89.07.18 (8936)
- EP-200536 B1 94.01.19 (9403) E 14p G11B-005/53
- DE3689550 G 94.03.03 (9410) G11B-005/53
Based on EP-200536
- KR9409726 B1 94.10.17 (9636) G11B-005/53
CT - GB2070841; JP59038985
1.Jnl.Ref; A3...8934; No-SR.Pub; 01Jnl.Ref
AP -- 86EP-303260 86.04.29
- 86US-854810 86.04.23
- 86EP-303260 86.04.29
- 86DE-3689550 86.04.29 86EP-303260 86.04.29
- 86KR-003311 86.04.29
IC1 - G11B-005/53
IC2 - G11B-023/50 G11B-025/06
AB - EP-200536 A
The head assembly (1) includes a support (3), for the magnetic head (4a) and the sweeping member (7a), rotating about the axis of the assembly. The sweeping member has a face oblique to the rotary direction of the head. The sweeping member is arranged to sweep dust and grit from

the surface of the tape during relative movement of the head assembly and tape.

The assembly pref. comprises a stationary lower drum (2) with an upper surface mating with a lower surface of a rotary upper drum (3) and defining recesses (3a,3b) for receiving heads (4a, 4b) rotatable with the upper drum. The upper drum further defines oblique recesses for receiving sweeping members constituting guides for the heads.

ADVANTAGE - Eliminates wear and/or deterioration of magnetic tape due to dust and grit which may collect on tape surface. (20pp Dwg.No.1,2/12)

-5- (WPAT)
AN - 84-276939/45
XRPX- N84-206691
TI - Tape guide for broad band signal tape recorder - is made as bolt on component with accurately machined parts fitting against static guide drums
DC - T03 W04
PA - (BOSC) BOSCH GMBH ROBERT
IN - HESCHER M, ROSIGNOL H
PR - 83.04.30 83DE-3315844
NUM - 3 patent(s) 2 country(s)
PN -- DE3315844 A 84.10.31 * (8445) 15p
- US4649443 A 87.03.10 (8712)
- DE3315844 C 89.09.28 (8939)
AP -- 83DE-3315844 83.04.30
- 84US-605682 84.04.30
IC2 - G11B-005/00 H04N-005/78
AB - DE3315844 A
The revolving head is inside two coaxial but axially displaced static guide drums, with a slop opening between tape and revolving head. The tape passes over the outside of the static drums at an angle corresponding to the track angle. To guide the tape accurately on and off the static drums guide pins are fitted in machined holes (10) in the tape guide support (1). The support is an accurately machined component with axial lands (14,15;16,17) which fit against the upper and lower drum surfaces respectively, the curvature being machined to suit. The fixture is made by bolts passing through holes (21) in the lands. The bolt centre lines are radial w.r.t. the drum axis. Machining is pref. by spark erosion to prevent machining stresses.

ADVANTAGE - Guide support can be bolted onto the static drum assembly without causing stresses leading to dimensional distortions. (2/3)

-6- (WPAT)
AN - 81-N0006D/51
TI - Read-write head tracking system for video recorder - uses floating head carrier with two diametrically opposed heads and coil energised to raise or lower head carrier
DC - T03 W04
AW - VIDEO CASSETTE RECORD
PA - (VICO) VICTOR CO OF JAPAN
IN - NAMIKI Y
PR - 80.05.07 80JP-060317
NUM - 7 patent(s) 5 country(s)
PN -- FR2482399 A 81.11.13 * (8151) 48p
- GB2078429 A 82.01.06 (8201)
- DE3118056 A 82.02.11 (8207)
- GB2078429 B 84.03.07 (8410)
- US4539604 A 85.09.03 (8538)
- DE3118056 C 87.03.19 (8711)
- AT8102037 A 89.04.15 (8920)
AP -- 81DE-3118056 81.05.07

- 83US-516186 83.07.21
IC2 - G11B-005/52 G11B-011/00 G11B-021/02 H04N-005/78
AB - FR2482399 A
The video tape recorder uses two rotating read/write heads which are moved vertically upwards and downwards to track oblique tracks on video tape and permit stable low speed playback. The two heads are mounted diametrically opposite each other on a vertically floating head carrier below a rotating drum which transports the tape. Idler wheels guide the tape through a wrap-around angle of greater than 180 deg.

The head carrier has permanent magnets mounted behind the heads, with suitable shielding between. A single layer vertical axis solenoid is stationary inside the head carrier magnets and is energised to raise or lower the head carrier by interaction with the permanent magnet. The rate of raising is synchronised to the tape drum speed to maintain sweep synchronisation at different playback speed.

-7- (WPAT)
AN - 81-72030D/40
TI - Tyre prodn. machine has axially movable end drums - and central drum with inflatable bags and locking mechanisms at beadings
DC - A95
PA - (NACO) NAT STANDARD CO
IN - BRYANT EC
PR - 80.03.12 80US-129595
NUM - 9 patent(s) 7 country(s)
PN -- DE3045792 A 81.09.24 * (8140) 44p
- BR8100152 A 81.09.15 (8140)
- GB2072592 A 81.10.07 (8141)
- FR2477957 A 81.09.18 (8143)
- JP56130334 A 81.10.13 (8147)
- US4312696 A 82.01.26 (8206)
- CA1153292 A 83.09.06 (8339)
- GB2072592 B 85.01.09 (8502)
- DE3045792 C 89.11.09 (8945)
AP -- 80DE-3045792 80.12.04
- 81GB-006476 81.03.02
IC2 - B29D-030/36 B29H-017/22
AB - DE3045792 A
Apparatus comprises end drum assemblies, an intermediate assembly, and a central, hollow shaft along which the drum assemblies can move. The drawing shows the left half (to left of plane of symmetry) in the expanded position and the right half in the collapsed position.

The shaft is mounted idling at the left (not shown) and is connected to a drive flange at the right. A support unit has a casing and cylindrical side wall encasing the shaft and terminating in an end portion carrying inward ring flanges. These flanges slide as a neat fit on the shaft.

The cylindrical side wall continues with a conical section (13) towards the plane of symmetry. An internal- opposed-thread shaft entrains symmetrically two followers, which act through longitudinal slits in the hollow shaft to pull the units towards the centre or retract them. This brings the end drums (3,3a) axially towards or away from each other.

In the initial, collapsed position (right half of fig.) inflatable bags (49) on the outer drums and (39) on the central drum lie flat and pistons (21,19) are retracted in cylinders (18). In this stage tyre material is wrapped around the inflatable sacks. Compressed air introduced into the cylinders (18,18a) force the pistons (19,19a) axially inwards, the cylinders (23,23a) being vented at this period. The pistons act through links (47) to force the tyre beading clamping elements (48,40a) onto the inner ends of the end drum segments (42,42a) radially outwards This clamps tyre material around the beading cores (64).

At this stage the inner spindle (24) is rotated to bring the nuts (28,28a) axially inwards, while pressurised air is introduced into the

central drum (2) between the units (7,7a). This inflates the central bag (39) between the beading.

For the production of pneumatic tyres predominantly by pneumatic inflation without rigid solid mechanisms to support the tyre wall. (2)

```
=> s drum(p)wrap####(5a)(skin or film)

        103252 DRUM
        120855 WRAP####
         90670 SKIN
        322967 FILM
L1         196 DRUM(P)WRAP####(5A)(SKIN OR FILM)

=> s l1 (p) (mandrel# or assembl### or ax!s)

         32275 MANDREL#
        746873 ASSEMBL###
        683874 AX!S
L2          48 L1 (P) (MANDREL# OR ASSEMBL### OR AX!S)

=> s l2 (p) (imag### or attach#### or cylind? or adhe####)

        281277 IMAG###
        865328 ATTACH####
        664043 CYLIND?
        347648 ADHE####
L3          32 L2 (P) (IMAG### OR ATTACH#### OR CYLIND? OR ADHE####)

=> d cit kwic 1-32
```

1. 5,753,531, May 19, 1998, Method for continuously making a semiconductor device; Jeffrey Frey, 438/61, 62, 484, 907

US PAT NO: 5,753,531 L3: 1 of 32

SUMMARY:

BSUM(23)

The . . . be formed by several methods. In the first method a flexible film is used to provide the base support. An **adhesive** layer is applied to the flexible film and semiconductor wafers are affixed to the **adhesive** layer. The flexible **film** and semiconductor wafers are then **wrapped** around a **drum**. The **drum** has a diameter sufficient to minimize the bending of the somewhat brittle semiconductor wafer. To minimize the effects of bending, the wafers **adhered** to the film may be cut or cleaved along lines parallel to the drums **axis** with a laser beam normal to the ribbon surface. These cuts may be made along the lines where the individual. . . all processes. The cuts may provide flexible relief for the semiconductor substrate when the substrate is wrapped around the processing **drum**. Another method of forming the semiconductor substrate supply roll, is to use a semiconductor material which is flexible enough to. . .

2. 5,609,714, Mar. 11, 1997, Apparatus for dry processing of optical print media; George D. Whiteside, et al., 156/387, 540, 555, 583.1, 584 [IMAGE AVAILABLE]

US PAT NO: 5,609,714 [IMAGE AVAILABLE] L3: 2 of 32

DETDESC:

DETD(23)

With reference to FIGS. 25-27, **drum** 42 is rotated (clockwise) so that the clamp 44B comes about to near a vertical position) (FIG. 26), the trailing or tab end 22 of the film is thus oriented for engaging the clamp 44B. The **wrapping** roller 90 urges the **film** against the **drum** 42 and likewise the tab end 22 of the film 10 is oriented so that it is aligned with the clamp 44B which is then closed thus securing the film 10 to the **drum** 42 (FIG. 27). The wrapping roller 90 is then retracted and the **drum** is then brought up to a high rotational speed (FIG. 27). At the same time, the optical stage and laser head **assembly** 46 are activated to direct a beam of laser energy at the film 10 to thermally expose the same and provide an **image** thereon.

3. 5,587,749, Dec. 24, 1996, Apparatus and method for reading motion picture film photographic dye soundtracks; Paul R. Goldberg, et al., 352/27, 37 [IMAGE AVAILABLE]

US PAT NO: 5,587,749 [IMAGE AVAILABLE] L3: 3 of 32

DETDESC:

DETD(11)

The **film wraps** around a rotating sound **drum** 44 with its base side toward the **drum** and its emulsion side toward the lens **assembly** 38. The **drum** 44 positions the film between the light source/slit and solar cell. An adjustable guide roller 46 provides for precise lateral. . . the film such that the film soundtrack elements LT and RT can be properly aligned laterally with respect to the **image** of the slit. The elements are aligned such that the respective portions of solar cell 40 receive substantially only the. . . positioned. Current outputs representing the LT and RT signals are thus present on the respective electrical leads 48 and 50 **attached** to the solar cell pair (lead 52 is a ground lead).

4. 5,563,095, Oct. 8, 1996, Method for manufacturing semiconductor devices; Jeffrey Frey, 438/62; 118/718, 719; 438/484, 490, 676, 707, 907, 980 [IMAGE AVAILABLE]

US PAT NO: 5,563,095 [IMAGE AVAILABLE] L3: 4 of 32

SUMMARY:

BSUM(23)

The . . . be formed by several methods. In the first method a flexible film is used to provide the base support. An **adhesive** layer is applied to the flexible film and semiconductor wafers are affixed to the **adhesive** layer. The flexible **film** and semiconductor wafers are then **wrapped** around a **drum**. The **drum** has a diameter sufficient to minimize the bending of the somewhat brittle semiconductor wafer. To minimize the effects of bending, the wafers **adhered** to the film may be cut or cleaved along lines parallel to the drums **axis** with a laser beam normal to the ribbon surface. These cuts may be made along the lines where the individual. . . all processes. The cuts may provide flexible relief for the semiconductor substrate when the substrate is wrapped around the processing **drum**. Another method of forming the semiconductor substrate supply roll, is to use a semiconductor material which is flexible enough to. . .

5. 5,417,136, May 23, 1995, Conga rim; Donald M. Kralik, et al., 84/411R, 411A [IMAGE AVAILABLE]

US PAT NO: 5,417,136 [IMAGE AVAILABLE] L3: 5 of 32

SUMMARY:

BSUM(8)

In accordance with the invention there is provided a **drum** comprising a generally **cylindrical drum** body having an open top end and a **cylindrical axis**, a skin stretched over said open top end and **wrapped** around a **skin** wire at its peripheral edge, and a rim for holding and tensioning the skin. According to the invention, the rim is comprised of an outer circular rim portion having a cross-sectional shape comprising a lower **cylindrical** section extending parallel to the central **axis**, a radial upper section extending perpendicular to the central **axis** and a conical intermediate section having an exterior surface which smoothly joins the **cylindrical** outer surface of the lower section to the radial surface of the upper section. The rim includes an inner circular. . .

CLAIMS:

CLMS(1)

We claim:

1. In a **drum** comprising a generally **cylindrical drum** body having an open top end and a central **axis**, a skin wire having a central diameter, a skin stretched over said open top end and **wrapped** around said **skin** wire at a peripheral edge of said skin and a rim engaging and tensioning said skin, the improvement wherein said rim is comprised of:
an outer circular rim portion having a cross-sectional shape comprising:
a lower **cylindrical** section extending parallel to said central **axis**, said lower section having a **cylindrical** outer surface,
a radial upper section extending perpendicular to said central **axis**, said upper section having an upper radial surface, and
a conical intermediate section having an exterior surface which smoothly joins the **cylindrical** outer surface of said lower section to the upper radial surface of said upper section; and
an inner circular rim portion joined to said outer rim portion, extending downwardly from said radial upper section toward said **drum** body and having a lower edge means for engaging said skin.

6. 5,273,197, Dec. 28, 1993, Roller for guiding and stretching bands and film webs; Karl-Heinrich Wenk, 226/190; 26/99 [IMAGE AVAILABLE]

US PAT NO: 5,273,197 [IMAGE AVAILABLE] L3: 6 of 32

ABSTRACT:
In . . . (10), in which the external drums are held apart from one another without touching, and the film band or the **film** web (21) **wraps** partly around and at the same time lies with bias against portions of the **cylindrical** circumferential surface of the external drums, at least one profile bar (18) is held and guided longitudinally in a longitudinal. . . (17) in the roller shaft (4), which cooperates with at least one ball-end pin (19) which is held in the **drum** mounting ring (8) associated with the external **drum** (2) and reaches radially downward into a recess (26) which is disposed on the profile bar (18), wherein a longitudinal displacement of the profile bar (18) turns the **drum** mounting rings (8) swivelingly mounted on the roller shaft (4), with respect to the longitudinal **axis** of the roller shaft (4).

7. 5,225,851, Jul. 6, 1993, Band imaging device; David J. Schoon, 347/240 [IMAGE AVAILABLE]

US PAT NO: 5,225,851 [IMAGE AVAILABLE] L3: 7 of 32

DETDESC:

DETD(10)

Conventional **imagers** have been limited by the precision with which an **image** can be placed on a photoreceptive medium. Generally they have been constructed so as to require extremely accurate placement of

various components, and thus have required large and heavy mechanical components. One of the common techniques of establishing a cross-**axis** position in a flat bed **imager** is to advance a mirror with a lead screw. Unfortunately, such devices do not permit absolute precision. This is due. . . in position, as a function of the amount of oil and its temperature (which effects its surface tension and viscosity). **Imagers** which are not flat bed **imagers**, but rather **wrap** the **film** around a movable **drum** or circular **cylinder**, must control the angular position of the film around the **drum**, and so must position the **drum** precisely. In prior art devices this is obtained only with considerable expense.

8. 5,155,720, Oct. 13, 1992, Servo control circuit for image rotator; Tatsuya Narahara, et al., 369/97, 44.14, 44.17, 44.18, 113 [IMAGE AVAILABLE]

US PAT NO: 5,155,720 [IMAGE AVAILABLE] L3: 8 of 32

SUMMARY:

BSUM(7)

The write laser light beam emitted from laser light source 1 travels through beam splitter 2, past mirror 3 to **image** rotator 5 and is incident on a beam splitter 7 arranged at an upper open portion of a rotary **drum** 6. Beam splitter 7 is normally located on a central **axis** of rotary **drum** 6, however, in order to make the drawing simpler in FIG. 1 the laser beam from laser light source 1. . . introduced to beam splitter 7 as though it became incident on beam splitter 7 from the lateral direction of rotary **drum** 6. Although rotary **drum** 6 is made of a transparent material, such as glass or the like, it may be formed as a metal **cylinder** similar to the rotary **drum** of a conventional video tape recorder (VTR). When the rotary **drum** is constructed as a metal **cylinder**, apertures 6a, 6b are bored through rotary **drum** 6 in the radial direction, whereby the write laser beam incident on the beam splitter 7 is passed through objective. . . written onto the recording surface of optical tape 9, which is made of an optical record medium such as magneto-optical **film** and is obliquely **wrapped** around rotary **drum** 6 for forming slant tracks along the length of the tape.

9. 4,931,122, Jun. 5, 1990, Straight through labelling machine; Monte C. Mitchell, 156/215; 53/136.1, 415; 156/449, 455, 458, 566, 568, DIG.13, DIG.26 [IMAGE AVAILABLE]

US PAT NO: 4,931,122 [IMAGE AVAILABLE] L3: 9 of 32

CLAIMS:

CLMS(1)

I claim:

1. A machine for **wrapping** segments of sheet or **film** material about the **cylinder** surfaces of **cylindrical** articles, said machine comprising:

(a) a **cylindrical** vacuum **drum** rotatable about its **cylinder axis** and capable, when so rotating, of picking up such segments, in sequence, by their leading ends at a segment receiving station, holding the segments on its **cylinder** surface, rotating the segments in turn to a segment applying station and releasing each segment at the segment applying station

(b) a transport adapted to continuously transport such **cylindrical** articles from a receiving station in a straight line to a release station with their **cylinder axes** parallel to the **cylinder axis** of the vacuum **drum** and, at a point between and spaced a substantial distance from said receiving and release stations, causing each **cylindrical** article to come into tangent contact with a segment on the vacuum **drum** at said segment applying station and

(c) means for imparting to each article during its travel between the receiving and release stations a spinning motion about its **cylinder axis**, such spinning motion commencing at a point substantially before such tangent contact and continuing to a point substantially after such. . .

10. 4,862,214, Aug. 29, 1989, Image forming apparatus; Nobuo Kasahara, et al., 399/303, 320 [IMAGE AVAILABLE]

US PAT NO: 4,862,214 [IMAGE AVAILABLE] L3: 10 of 32

SUMMARY:

BSUM(4)

A . . . back on a color component basis in matching relation to a paper size, and the rotation speed of a transfer **drum** is varied during the interval between consecutive transfers and based on the paper size so that the leading end of the next toner **image** of a particular color and that of a paper sheet may coincide with each other at a predetermined transfer position.. . . copying speed is set up which matched with a particular paper size. To so vary the speed of the transfer **drum**, the transfer **drum** and the photoconductive **drum** are driven by individual drive sources (servo motors). The transfer and photoconductive drums are dimensioned substantially equal to each other. . . contact with each other under a predetermined pressure. Although not clearly shown or described in said laid-open publication, a transfer **drum** of the above-described type of prior art color copier has a rotatable **drum** which is notched along its **axis** to form an intermediate opening. The intermediate opening is delimited at opposite axial ends thereof by end portions of the **drum**. A dielectric sheet such as a dielectric **film** or an electrostatic screen is **wrapped** around the end portions of the **drum**. With this configuration, the opposite end portions of the transfer **drum** make contact with the photoconductive surface of the photoconductive **drum** with the intermediary of the dielectric sheet.

DETDESC:

DETD(2)

To better understand the present invention, a brief reference will be made to a photoconductive **drum** and a transfer **drum** which are included in a prior art color **image** forming apparatus, shown FIG. 1. As shown, the **image** forming apparatus, e.g., a color copier includes a transfer **drum** 10 and a photoconductive **drum** 12 which have substantially the same in dimension as measured in the axial direction of the drums. The drums 10 and 12 are directly pressed against each other by a predetermined pressure necessary for **image** transfer and driven together through gears. The transfer **drum** 10 is provided with a notch-like intermediate opening 14 which extends along the **axis** of the **drum** 10. Circumferential surface portions 16a and 16b of the **drum** 10 which are defined on opposite sides of the intermediate opening 14 are held in pressing contact with a photoconductive material of the photoconductive **drum** 20 via a dielectric sheet 18. The dielectric sheet 18 is formed as a dielectric **film** or an electrostatic screen is **wrapped** around the transfer **drum** 10. With this kind of construction, it is substantially impossible to increase the rotation speed of the transfer **drum** 10 relative to that of the photoconductive **drum** 12 after the tail end of a paper sheet 22 has moved past the **drum** 10, so as to shorten the period of time necessary for copying. Specifically, while the rotation speed of the **drum** 10 has to be variable in order to set up a paper linear velocity most efficient for particular copying conditions,. . . great frictional force due to the pressing contact of the axially opposite end portions 16a and 16b of the transfer **drum** 10 and ends 20a and 20b of the photoconductive material 20 of the photoconductive **drum** 12 via the dielectric sheet 18. Such a frictional force obstructs the smooth slippage which must occur in the event of a speed change of the transfer

drum 10. Should an excessive force be applied to the transfer **drum** 10, there would occur vibrations which bring about various causes of incomplete reproduction of **images**, e.g. blurring and jitter. Even if the rotation speed of the transfer **drum** 10 is not varied, the above construction gives rise to various other problems due to the dielectric sheet 18 making. . .

11. 4,858,415, Aug. 22, 1989, Method and apparatus for unitizing tires; Leroy Hake, 53/438, 441, 529, 556, 587 [IMAGE AVAILABLE]

US PAT NO: 4,858,415 [IMAGE AVAILABLE] L3: 11 of 32

DETDESC:

DETD(12)

It is preferable that the **mandrel** means includes an inner ejector means for moving relative to the **mandrel** means and for removing the wrapped load from the **mandrel** means. As shown in FIG. 6, the ejector means includes an ejector **drum** 76 mounted radially inside lower platen 24 and lower **mandrel** 74 having a upwardly facing surface 78 which engages the lower end of the stack of tires and which can be elevated by piston and **cylinder** 80 relative to lower platen 24 and lower **mandrel** 74 to elevate the wrapped stack of tires and its **wrap** of stretch **film** from lower platen 24 and lower **mandrel** 74.

12. 4,854,983, Aug. 8, 1989, Rotary heat sealing method and apparatus; David A. Bryniarski, et al., 156/70; 100/332; 156/290, 308.4, 312, 359, 361, 383, 553, 582, 583.4; 493/193, 205, 208, 928 [IMAGE AVAILABLE]

US PAT NO: 4,854,983 [IMAGE AVAILABLE] L3: 12 of 32

SUMMARY:

BSUM(6)

In . . . transverse direction of a continuously moving multiple layers web of thermoplastic film. The method comprises the steps of providing a **cylindrical drum** mounted for rotation about the **axis** thereof, providing a heated area in the **cylindrical** surface of the **drum**, **wrapping** the moving web of **film** around the **cylindrical** surface of the **drum**, rotating the **cylindrical** surface of the **drum** at the same speed as the moving web of film so that there is no relative motion between the web and the **cylindrical** surface, and pressing an area of the multiple layer web of thermoplastic film against the heated area in the **cylindrical** surface of the **drum** at at least one location about the **cylindrical drum** to form a heat seal in the multiple layer web.

CLAIMS:

CLMS(1)

We . . .

hems in an edge of the web in the manufacture of draw tape bags comprising the steps of:
providing a **cylindrical drum** mounted for rotation about the **axis** thereof,
providing a continuously heated area in the **cylindrical** surface of the **drum** having a length extending axially of the **drum** corresponding to the width of the hems,
wrapping the moving web of **film** with the draw tapes in the hems around the **cylindrical** surface of the **drum**,
rotating the **cylindrical** surface of the **drum** at the same speed as the moving web of film so that there is no relative motion between the web and the **cylindrical** surface,
pressing the hem area of the multiple layer web of thermoplastic film

against the heated area in the **cylindrical** surface of the **drum**, and
maintaining said hem area of the web against the heated area of the **cylindrical** surface of the **drum** during the substantial portion of the rotation thereof to preseal the ends of the draw tapes in the hems in. . .

13. 4,771,337, Sep. 13, 1988, Image recording apparatus; Yutaka Endo, et al., 358/481, 300 [IMAGE AVAILABLE]

US PAT NO: 4,771,337 [IMAGE AVAILABLE] L3: 13 of 32

DETDESC:

DETD(4)

FIG. . . . beam shut-off is shown by a low level while the beam transmission is shown by a high level. The time **axis** includes a photo-sensitive **film wrapping** period t1 for **wrapping** the photo-sensitive **film** F around the rotating **drum** 5, an **image** memory writing period t2 for writing the **image** input into the memory, an **image** recording period t3 for reading out the data from the frame memory and recording it on the photo-sensitive film F, an **image** memory write period t4 for temporarily interrupting the recording of the **image** to the photo-sensitive film F and writing the **image** input into the memory, and a photo-sensitive film removal period t5 for removing the photo-sensitive film F from the rotating **drum** 5 after the recording of the **image**. The **image** is recorded by repeating the **image** recording period t3 and the **image** memory writing period t4. In the photo-sensitive **film wrapping** period t1, the **image** memory write period t4 and the photo-sensitive film removal period t5 other than the **image** recording period t3, the laser beam L is not necessary. Thus, the laser beam L is shut off by the. . .

14. 4,637,710, Jan. 20, 1987, Drum type image scanning and recording apparatus; Teruo Fujii, et al., 355/72; 346/138; 355/75, 104, 110; 358/492 [IMAGE AVAILABLE]

US PAT NO: 4,637,710 [IMAGE AVAILABLE] L3: 14 of 32

ABSTRACT:
A **drum** type **image** scanning and recording apparatus, with a **drum** around whose **cylindrical** external surface a **film** is fixedly **wrapped** and a **drum**-driving apparatus mechanically coupled to the **drum** for rotating the **drum**, has a string tensionally stretched nearby and along the external surface of the **drum** in parallel with the **drum axis** by a string stretching device. A swing detecting device detects the swing of the string produced when part of the film and the string are in contact with each other, as when the **drum** is rotating and the film separates away from the **drum** external surface. The rotation of the **drum** is stopped in response to an abnormality detection signal from the swing detecting device, thus precluding significant physical separation of the film from the **drum**.

SUMMARY:

BSUM(5)

In an **image** scanning and recording apparatus of a **cylindrically** scanning type, particularly in such apparatus used for graphic arts or the like, the following steps are taken for **attaching** a photosensitive material such as a film, a photographic paper or the like (referred to as "film" hereinafter) to a **drum** in a recording unit, or for **attaching** an original picture to a **drum** in a scanning unit: perforating several holes in a line near the leading edge of the film; fitting said holes to pins (preferably the same number as the holes) aligned on the external surface of the **drum** and in parallel with the **drum axis**; tensionally **wrapping** the **film** on the **drum** by pulling a free or unpinned edge of the film; **attaching** securely

the ending edge of the film to the **drum** using an **adhesive** tape or a press bar; and, at the same time, vacuum suctioning the film by way of small holes penetrating from the surface to the interior of the **drum**, thus positively **attaching** the film to the external surface of the **drum**.

CLAIMS:

CLMS(1)

What is claimed is:

1. A **drum** type **image** scanning and recording apparatus having a **drum**, around whose **cylindrical** external surface a **film** is fixedly **wrapped**, and a **drum** driving apparatus mechanically coupled to said **drum** for rotating the **drum**, the apparatus comprising:
a string tensionally stretched close to and along the external surface of said **drum** in parallel with the **drum axis**;
string stretching means for supporting said string tensionally;
swing detecting means for detecting the swing of said string produced when part of the film and said string are in contact with each other when said **drum** is rotating and the film separates away from the **drum** external surface; and
drum braking means for stopping rotation of the **drum** in accordance with said detection signal from said swing detecting means.

15. 4,628,668, Dec. 16, 1986, Unit load wrapping with controlled wrap tensioning; Martin M. Wildmoser, 53/399, 441, 556, 586 [IMAGE AVAILABLE]

US PAT NO: 4,628,668 [IMAGE AVAILABLE] L3: 15 of 32

DETDESC:

DETD(6)

Turning . . . 70 and carry a reserve supply which can be threaded into machine 20 when primary supply rolls 38 are exhausted. **Film wrap** 24 is drawn from each supply roll 38 and held in a supply loop 74, which extends between idler rollers 76 and 78, by a dancer roller 80 mounted upon frame 70 for pivotal movement about a vertical **axis** 82 by means of dancer arms 84 and dancer shaft 86. Each dancer shaft 86 is biased in the direction. . . of arrow 88, as seen in FIG. 6, by a cable 90, one end of which is wrapped around a **drum** 92 affixed to dancer shaft 86 and the other end of which is connected to the piston rod 94 of an air **cylinder** 96 carried by frame 70. The pressure of the air supplied to air **cylinder** 96 at air inlet 98 then determines the force with which each dancer shaft 86, and each dancer roller 80,. . .

16. 4,573,305, Mar. 4, 1986, Unit load wrapping with uniform wrap tension along the periphery of the wrapped load; Martin M. Wildmoser, 53/466, 64, 229, 441, 553, 556, 586 [IMAGE AVAILABLE]

US PAT NO: 4,573,305 [IMAGE AVAILABLE] L3: 16 of 32

DETDESC:

DETD(6)

Turning . . . 70 and carry a reserve supply which can be threaded into machine 20 when primary supply rolls 38 are exhausted. **Film wrap** 24 is drawn from each supply roll 38 and held in a supply loop 74, which extends between idler rollers 76 and 78, by a dancer roller 80 mounted upon frame 70 for pivotal movement about a vertical **axis** 82 by means of dancer arms 84 and dancer shaft 86. Each dancer shaft 86 is biased in the direction. . . of arrow 88, as seen in FIG. 6, by a cable 90, one end of which is wrapped around a **drum** 92 affixed to dancer shaft 86 and the other end of which is connected to the piston rod 94 of an air **cylinder** 96 carried by frame 70. The pressure of the air

supplied to air **cylinder** 96 at air inlet 98 then determines the force with which each dancer shaft 86, and each dancer roller 80,. . .

17. 4,553,825, Nov. 19, 1985, Photocomposing apparatus and method; Michel Moulin, et al., 396/562; 355/47; 396/387 [IMAGE AVAILABLE]

US PAT NO: 4,553,825 [IMAGE AVAILABLE] L3: 17 of 32

DETDESC:

DETD(3)

In the complete photocomposing machine, character presentation means and character spacing means are provided to form and project character **images** in the direction of the arrow 25 toward a **drum** 24 around which is **wrapped** photographic **film** 86 (FIG. 2). Lines of characters are formed on the film in a direction parallel to the **axis** of rotation 27 of the **drum** 24. The **drum** is rotated counterclockwise to produce forward leading (line spacing), or clockwise to produce reverse leading.

18. 4,416,714, Nov. 22, 1983, Labeling machine for heat shrink labels; Wolfgang Hoffmann, 156/86, 212, 215, 446, 447, 448, 458 [IMAGE AVAILABLE]

US PAT NO: 4,416,714 [IMAGE AVAILABLE] L3: 18 of 32

CLAIMS:

CLMS(12)

12. Apparatus for continuously applying heat shrink film to containers having a **cylindrical** body portion and at least one end portion curving inwardly from the body portion said apparatus comprising:
(a) a film feed for continuous supply of film material from a roll thereof
(b) a continuous cutting **assembly** acting to sever segments of film from such supply
(c) a continuously rotating vacuum **drum** serving to grip the leading end of each severed segment of film, to **adhere** to an applicator station and to release the segment at such station
(d) a continuous container transport serving to transport containers continuously to said applicator station and then to a heating station
(e) means for **wrapping** each segment of **film** about and **adhering** it to the body portion of each container without heat shrinking the same and forming a side seam in the. . .

19. 4,323,607, Apr. 6, 1982, Heat shrinkable covers; Hiroshi Nishimura, et al., 219/213; 156/84, 86; 174/DIG.8; 264/DIG.71; 285/909; 439/932 [IMAGE AVAILABLE]

US PAT NO: 4,323,607 [IMAGE AVAILABLE] L3: 19 of 32

DETDESC:

DETD(37)

While a heat shrinkable **film** is **wrapped** about a **drum**, not shown, to form a lamination, the sheet shaped or wire net shaped heating elements are interposed between predetermined turns of the lamination and release paper strip is also interposed between the predetermined turns. After wrapping, the **assembly** is heated to obtain an integral **cylindrical** lamination and then the **cylindrical** lamination is cut at the portions where the release paper strip had been interposed.

20. 4,321,472, Mar. 23, 1982, Panoramic dental X-ray machine with camera detached therefrom; Robert H. Cushman, 378/38, 178 [IMAGE AVAILABLE]

US PAT NO: 4,321,472 [IMAGE AVAILABLE] L3: 20 of 32

SUMMARY:

BSUM(7)

The camera **assembly**, including the inner substantially semi-**cylindrical drum** or mask, are separated from the tubehead **assembly** and consequently do not rotate about the patient's head. The **film** is **attached** to and **wrapped** around a semi-**cylindrical film** carrier, although the invention is not limited to such configuration, and the film carrier caused to rotate at controlled non-uniform. . . accordance with the type of radiograph desired. The film is thus limitedly rotated around the patient's face about a vertical **axis** parallel to the center line of the patient's face. A light-opaque but X-ray transmitting mask is interposed between the camera. . .

21. 4,252,849, Feb. 24, 1981, Heat shrinkable covers; Hiroshi Nishimura, et al., 428/192; 138/110, 156, 178; 219/201, 522, 535; 428/516, 913 [IMAGE AVAILABLE]

US PAT NO: 4,252,849 [IMAGE AVAILABLE] L3: 21 of 32

DETDESC:

DETD(37)

While a heat shrinkable **film** 29 is **wrapped** about a **drum** 30 to form a lamination, as shown in FIG. 3, the sheet shaped or wire net shaped heating elements 24. . . predetermined turns of the lamination and release paper strip 31 is also interposed between the predetermined turns. After wrapping, the **assembly** is heated to obtain an integral **cylindrical** lamination and then the **cylindrical** lamination is cut at the portions A where the release paper strip had been interposed. After cutting, the release paper. . .

22. 4,230,399, Oct. 28, 1980, Photocomposing machine and method; Louis M. Moyroud, 396/554, 555, 557, 558 [IMAGE AVAILABLE]

US PAT NO: 4,230,399 [IMAGE AVAILABLE] L3: 22 of 32

ABSTRACT:
The machine preferably has a character matrix comprising a rotating **drum** with character-bearing **film** strips **wrapped** around it. The machine has a light source comprising a plurality of flash lamps and fiber-optic light pipes. The light-pipes are arranged in a linear array aligned parallel to the direction of travel of the film strips on the **drum**. Photographic film is formed into a semi-**cylindrical** arc and remains stationary during composition of up to a full newspaper page of text before the film is moved. . . and reflector traveling parallel to the film in a beam of collimated light, and a swinging mirror mounted on the **axis** of the semi-**cylinder** formed by the film. Both timing slits and base-line reference marks are located on the film strips near each character. The base-line reference marks are detected and used to make automatic corrections of the character **image** locations to ensure excellent base-alignment of the characters on the film. Other corrections of the character **image** locations are stored in a memory and are made automatically during composition. Several steps are taken to ensure accurate character. . . character to be flashed. Furthermore, timing delay is controlled by a clock pulse source whose frequency is controlled by the **drum** rotation so as to compensate for instantaneous variations in **drum** speed and/or position. Each film strip bears coded indicia indicating the illumination level required for each different type face on. . .

SUMMARY:

BSUM(61)

Preferably, the character matrix is a **film** strip **wrapped** around

a **drum**. The vertical **axis** of each character is perpendicular to the direction of movement past a projection point. In addition to a flash timing. . . of the character from a desired location. The error signal is used to develop an optical correction of the character **image** location to ensure highly accurate base alignment of the projection characters regardless of small mechanical inaccuracies or variations in the location or shape of the matrix **drum** or film strip. Preferably, location error is measured by electronic means from a base line mark slightly ahead of the. . .

23. 4,191,957, Mar. 4, 1980, Method of processing radar data from a rotating scene using a polar recording format; Jack L. Walker, et al., 342/190; 324/76.36; 342/25, 196 [IMAGE AVAILABLE]

US PAT NO: 4,191,957 [IMAGE AVAILABLE] L3: 23 of 32

CLAIMS:

CLMS(13)

13. In a method of range-Doppler **imaging** a scene having rotation relative to a sensor over a predetermined range of angles, .phi., wherein return signal data are sequentially received, transformed and recorded on a photo-sensitive recording film preparatory to spatial **imaging** of the scene, the improvement which comprises:
wrapping the photo-sensitive recording **film** around the side periphery of a conic **drum** having an angle of convergence .theta. such that .theta.=2 arcsin (.phi./2.pi.) and recording the return signal data on the film. . . the radial coordinate is defined as the relative vertical position with respect to upper and lower surfaces of the conic **drum** and is in proportionate relationship to the instantaneous frequency of the transmitter signal, and the angular coordinate is defined as the relative angular position with respect to the conic **axis** and is in proportionate relationship to the instantaneous angular position of the rotating scene.

24. 4,089,597, May 16, 1978, Stereoscopic motion picture scanning reproduction method and apparatus; Robert Bruce Collender, 352/53, 40, 58, 133 [IMAGE AVAILABLE]

US PAT NO: 4,089,597 [IMAGE AVAILABLE] L3: 24 of 32

DETDESC:

DETD(50)

FIG. 14A is a simplified perspective drawing of the light path for the **image** reproducer embodiment according to my invention. The optical scanning mechanism consists of projection lens 331, 90.degree. **image** rotator 332, mirror 333 and negative **image** spreading lens 334 and rotates about the rotation **axis** 330. The pseudo projection point 350 rotates about scan circle 335 at a rate such that point 350 returns to. . . with the scanning rotor made up of the aforementioned projection optics, rotating at 1500 RPM or 25 RPS giving 2 **image** scans per revolution. **Film** 336 is shown **wrapped** around **film** guide 337 and proceeding to a film transport system not shown. Concentric with film guide 337 is mirror **drum** 338 with one mirror segment 339 shown. An arrow 340 is shown as an **image** on film frame 341. The arrow 340 represents a vertical up direction with respect to the photography of the scene. . . a vertical arrow photographed in the scene would have the orientation shown at 340. Mirror segment 339 causes the film **image** 340 to form an **image** of the same orientation at 342 located at the scanner rotation **axis** 330. An incident light beam 343 which rotates with the aforementioned scanning optics, is shown incident on the film frame. . . at mirror segment 339 at point B from which the light ray goes through the center of projection lens 331, **image** rotator 332 and reflecting from mirror 333 passes through spreader lens 334 from which it intersects rotation **axis** 330 at point C to travel to screen 344 and arrive at **image** point A.sub.i. The screen **image** "vertical arrow"

345 is shown properly oriented at 90.degree. to the film **image** A. The scan direction of the scanner optics is shown as clockwise but could just as well be counterclockwise without changing the appearance of the screen **image**. Scan circle 335 is in a horizontal plane and the **axis** of rotation 330 is vertical.

DETDESC:

DETD(58)

FIGS. 18A, B and C show three views of the embodiment of the stereoscopic motion picture **image** reproducer according to my invention. FIG. 18A is a plan view in which two sections AA and BB are delineated.. . . optic components including focal plane shutter 346 (which may or may not be used) mirror 405 and projection lens 331. **Attached** to the light box 407 is the cross bar 500 which makes a 95 degree angle to the box optic's centerline denoted by section BB in FIG. 18A. A portion of the scan optics **attached** to cross bar 500 -- are the parallelogram shaped plane mirror 406, plane mirror 333 and concaved negative lens 334. . . spreads the projection angle to the screen 344 through protective plastic circular sheet 505. Mirror segment 339 on multi-facet mirror **drum** 338 is shown receiving the scanned **image** from film frame 341 at the instant of scan. The **film** 336 is shown **wrapped** around circular **film** guide 337. **Film** 336 leaves circular guide 337 at tangents and enters the film transport mechanism depicted by rollers 507 and sprocket 508. Film 336 is shown entering and exiting the sprocket **assembly**. The sprocket is driven by motor 437 shown in FIG. 18B and this motion is coupled to the mirror **drum** through timing belt 506. The mirror **drum** 338 and film 336 angular velocity when the film is within circular film guide 337, is made equal by the proper ratios on the timing pulleys. My invention model used 80 mirror segments on mirror **drum** 338 and an 8 tooth sprocket. This combination required a 10:1 gear pulley ratio between mirror **drum** 338 and sprocket 508.

DETDESC:

DETD(59)

In . . . 18B are the light box 407, the cross bar 500, the parallelogram plane mirror 406 and the spreading lens optics **assembly** 509 made up of mirror 333 and negative picture spreading lens 334. A hole is provided in crossbar 500 and in spreading lens optics **assembly** 509 for the passage of projected light from the scanner into the spreading optics from which it emerges from lens 334 to pass through the plastic curved window 505 to the formation of screen **image** on semi-specular screen 344. Motion picture **film** 336 is shown **wrapped** around circular **film** guide 337. All downward protruding scan optics are contained inside of the circular film guide. The only downward protruding scan. . . in FIG. 18A. With respect to FIGS. 18B and 18C the downward protruding scan optics are shown clearing the mirror **drum** 338 driving timing belt 506. Film and mirror **drum** drive motor 437, **attached** to base plate 514, is connected to the 15 tooth timing pulley 541 and to the 8 tooth film sprocket. Timing pulley 541 and timing belt 506 via film and mirror **drum** drive motor 437, drive 150 tooth timing pulley 540. Timing pulley 540 is connected to the mirror **drum** 338. Timing pulley 540 and mirror **drum** 338 rotate about scanning motor shaft 431 on bushing 542. In FIG. 18B, the scanning optics rotor is housed in a right circular **cylindrical** chamber in order to prevent the escape of stray light to the observer. This chamber is made up of top. . . Rings 511, 513 and baseplate 514 are held together in three places at 120.degree. intervals around the periphery of the **image** reproducer as depicted in FIG. 18A in line with legs 439. The means for constraining the rings, baseplate and plastic. . . for lamp power cord. Hot air escape is via a tangential opening in skin 510 at the rear of the **image** reproducer behind screen 344. This natural air flow eliminates the need for an additional fan motor and fan for cooling purposes. The **image** reproducer acts as a centrifugal blower to provide self cooling air flow.

25. 4,078,860, Mar. 14, 1978, Cycloramic image projection system; Ronald P. Globus, et al., 352/69, 156; 359/725, 728; 396/20 [IMAGE AVAILABLE]

US PAT NO: 4,078,860 [IMAGE AVAILABLE] L3: 25 of 32

ABSTRACT:
A cycloramic **image** projection system in which an **image** as viewed from a central point, is projected in a complete circle about the viewer's position onto a **drum**-type screen. Included is a conical reflector arranged concentrically with the optical **axis** of a circular beam of light projected onto the reflector and which is turned in a radially outward direction and condensed through the picture area of a circular loop of film on a sprocket also concentric with the optical **axis** and which surrounds the reflector. A toroidal convex lens surrounds the film loop concentrically and serves to focus and project a 360.degree. **image** of the picture onto the screen, and the **film** loop is continuously **wrapped** on and off around the reflector whereby a continuously changing but temporarily stationary 360.degree. **image** is swept onto and off the screen. The sprocket and reflector are stationary, the toroidal lens is mounted on a pan table which rotates about the optical **axis**, and an arm on the table serves to pull the film from one reel, feed it through a slit in. . .

26. 4,027,964, Jun. 7, 1977, Apparatus for interposition environment; Joseph Fantuzzo, et al., 399/147 [IMAGE AVAILABLE]

US PAT NO: 4,027,964 [IMAGE AVAILABLE] L3: 26 of 32

DETDESC:

DETD(41)

An **imaging** system similar in configuration to that depicted in FIG. 1 is **assembled** with a transparent polyethylene **film** about 25 microns in thickness **wrapped** around a portion of the **drum**. The photoconductor is charged in the dark to about 750 volts and exposed to a light and shadow pattern. The electrostatic latent **image** is developed with a developer having a resistivity of about 10.sup.10 ohm-cm and of the following composition:

27. 3,977,617, Aug. 31, 1976, Film winding and perforating apparatus; Marion B. Salmon, 242/421.2; 83/347, 659; 242/422.6, 526.1, 533.2, 542.3, 561, 596.5, 599.2 [IMAGE AVAILABLE]

US PAT NO: 3,977,617 [IMAGE AVAILABLE] L3: 27 of 32

DETDESC:

DETD(40)

In preparing the backup **drum** 154 for use in the apparatus of the invention, the backup roll, which includes a layer or coating of cork or rubber around its outer periphery, is wrapped about with a plurality of **wraps** of a synthetic resin **film**. The film is preferably a type which has a tackiness allowing it to stick to itself so that the several wraps about the backup roll 154 cling to each other, and form closely **adhering** convolutions concentrically formed about the **axis** of rotation of the roll. In a preferred usage of the apparatus of the invention, an especially useful synthetic resin. . .

28. 3,909,258, Sep. 30, 1975, Electrographic development process; Arthur R. Kotz, 430/122; 118/638; 347/112; 430/31, 97, 101, 103, 107 [IMAGE AVAILABLE]

US PAT NO: 3,909,258 [IMAGE AVAILABLE] L3: 28 of 32

DETDESC:

DETD(51)

A sheet of 0.0005 inch thick polyester film available under the tradename Mylar is coated on one surface with a thin **film** of electrically conductive aluminum and **wrapped** around the periphery of a 4 inch diameter **cylindrical** aluminum **drum** with the aluminum coated side against the **drum**. The film composite is then taped in place. As the grounded **drum** rotates with a surface speed of about 5 inches/sec., a conductive copper wire stylus of about 0.01 inch diameter contacts. . . developing station as described above contacts the polyester surface after the surface has been charged by the wire stylus. The **cylindrical** development electrode shell has its **axis** parallel to the aluminum **drum axis** and rotates at a surface speed of about 1.5 inches/sec. The magnetic developer powder is of the type described in. . .

29. 3,856,394, Dec. 24, 1974, FILM HOLDING ARRANGEMENT FOR PHOTOSETTING MACHINE; Hans Linde, 355/72; 396/549 [IMAGE AVAILABLE]

US PAT NO: 3,856,394 [IMAGE AVAILABLE] L3: 29 of 32

DRAWING DESC:

DRWD(8)

A . . . each located at one end of the hole 14 are each formed with an upwardly open seat 31 defining an **axis** A parallel to the direction 29 and to the hole 14. A pivot axle 8 of a cassette 1 lies in these seats 31 and has an **axis** A' centered on the **axis** A. This axle 8 carries a **cylindrical drum** 2 centered on the **axis** A' and having a diameter D. FIGS. 2 and 3 show how a piece of **film** 3 is **wrapped** circumferentially around the **drum** 2 with its ends secured under longitudinally extending sealing strips 4' and 4" made of black foamed polyurethane. These strips. . .

30. 3,844,872, Oct. 29, 1974, HEAT SEALING APPARATUS; Francis X. Lenoir, et al., 156/498; 53/371.2, 371.4, 372.3, 375.9, 387.3; 156/583.1 [IMAGE AVAILABLE]

US PAT NO: 3,844,872 [IMAGE AVAILABLE] L3: 30 of 32

DETDESC:

DETD(11)

In . . . the platen to form a flow path past said platen for packages having wrappers to be sealed such that the **film wrapper** will make contact at its overlapped portions with the **cylindrical** surface of the platen. As here embodied, an elongated guide bracket 64 is mounted onto the top of bed plate. . . an L-shaped construction having an upright leg 66. The spacing between the inside face 68 of bracket 64 and the **cylindrical** surface 50 of **drum** 18 defines a flow path 70 along the top of bed plate 12 for the passage of cigarette packages past **drum** 18. As can be evidenced from the drawings, this flow path 70 is formed substantially parallel to the longitudinal **axis** of the platen or **drum** 18.

DETDESC:

DETD(27)

In . . . included a second platen adjacent to and rotatable with the platen 18. As disclosed herein, this second platen comprises cooling **drum** 120 which is mounted on **drum** shaft 32 between **drum** 18 and the slip ring **assembly** 52. **Drum** 120 is retained on shaft 32 by set screws (not shown) or other suitable means. **Drum** 120 has a substantially **cylindrical** surface 122 which is designed to be contacted by the overlapped portions of the **film wrapper** subsequent to the formation of the heat-sealed seam. The surface 122 of **drum** 120 is preferably concentric with the surface 50 of **drum** 18

and of equal diameter so that the inwardly flexed seam 102 of each cigarette pack 100 comes into contact with **drum** surface 122, under the urging of leaf springs 76, as the pack is transported out of contact with **drum** 18 by pusher 86.

31. 3,641,560, Feb. 8, 1972, HIGH-SPEED ILLUMINATION APPARATUS; Joseph M. Klockenbrink, 340/318; 178/15; 313/113, 234, 594; 315/167, 205; 345/41; 347/237 [IMAGE AVAILABLE]

US PAT NO: 3,641,560 [IMAGE AVAILABLE] L3: 31 of 32

DETDESC:

DETD(12)

FIG. 4 shows the **image drum assembly** 40 incorporating the light array **assembly** of FIGS. 2-2c. The **drum** 41, in one preferred embodiment, is formed of a transparent material to allow for the substantially free passage of light therethrough. A **film** negative 42 is **wrapped** around the exterior surface of **drum** 41. The film negative is black (i.e., opaque) substantially over its entire surface except for those portions at which a. . . understood that each row would be spaced at equal intervals from its adjacent rows around the entire circumference of the **drum**. Each row contains a plurality of substantially the identical character, the rows 43-48 containing the identical characters "8, " "9,. . . "E," respectively. It should be understood that the characters in each row extend over substantially the entire length of the **drum** with each row containing as many as 100 or more characters. In one preferred embodiment, each row may contain 120. . .

32. 3,600,507, Aug. 17, 1971, HIGH DATA RATE OPTICAL COMMUNICATION SYSTEM; Peter M. Newgard, et al., 358/412; 355/49; 358/480, 491; 359/212 [IMAGE AVAILABLE]

US PAT NO: 3,600,507 [IMAGE AVAILABLE] L3: 32 of 32

DETDESC:

DETD(4)

The transmitter further comprises a **cylindrical** support **drum** 9 having a narrow circumferential slit 10 formed on the support **drum**'s longitudinal midpoint. An exposed **film** 11 is helically **wrapped** around the exterior of the **film** support, a portion of the film always passing over the slit 10 as shown in FIG. 2. A mirror tape. . . on the emulsion, since the film is held emulsion side out. The focusing lens 8 is positioned concentric with the **axis** of the **cylindrical** support. The optical **axis** of the lens 8 is deflected 90.degree. by a scanning mirror set at angle of 45.degree. to the **axis** of the lens 8 and the support 9. The center of the mirror face lies in a plane parallel to. . .